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(54) Title: DIGITAL INTERNET DISTRIBUTION CHANNEL MANAGEMENT SYSTEM FOR DIGITAL CONTENT

(57) Abstract: A digital distribution channel management system includes a digital warehouse storing different master copies of digital goods awaiting transfer and a transaction database that stores a plurality of transaction records. A transaction server is provided coupleable to a communications network, such as the Internet. The transaction server is responsive to requests from the communications network to serve an instance of a particular digital goods. The request includes predetermined information that is authenticatable against a predetermined transaction database record stored in the transaction database. The transaction server provides for the digital signing of the instance of the digital goods and the serving of the instance back onto the communications network where the predetermined information is successfully authenticated against the predetermined transaction database record.

- 1 -

Digital/Internet Distribution Channel Management System
for Digital Content

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Background of the Invention

Field of the Invention:

The present invention is generally related to electronic commerce systems that provide support for commercial transactions to be performed over the Internet and, in particular, to a digital channel management system that supports the electronic distribution of digital content through a trusted distribution channel.

Description of the Related Art:

While the growth of Internet commerce has and continues to grow at a substantial pace, problems remain in determining how to manage and perform many different types of commercial transactions over the Internet or other open network communications mediums. These problems generally concern the issue of establishing a trusted relationship between providers and

- 2 -

1 consumers based on a system that maintains, if not enforces, the credibility of
2 the trusted relationship.

3 In commerce oriented to the delivery of physical goods and services the
4 trusted relationship has an inherent touch-stone for guaranteeing performance
5 of commercial transactions. The delivered goods and services must be
6 acceptable to the consumer or the transaction will be returned or refused. In
7 the case of commerce directed to the delivery of digital content, however, there
8 is no such touch-stone. The digital goods delivered are essentially intangible,
9 if not also transient. Thus, the trust issues of whether the proper digital goods
10 were delivered by the content providers and whether additional copies of the
11 goods are made by the consumers exist particularly in the realm of electronic
12 commerce of digital goods.

13 Beyond the trust issues, performance of commercial electronic
14 transactions for digital content are limited by a number of practical,
15 commercial, and even ethical issues that must be adequately resolved. One
16 of the most immediate and tangible problems that must be faced before wide-
17 spread adoption of any system of electronic commerce in digital goods can be
18 used is that many forms of digital goods are relatively small in terms of their
19 direct financial cost to a consumer. The existing public financial transaction
20 system is based on charging transaction fees for obtaining compensation for
21 the processing of individual fund transfers. As a result, the accumulated costs
22 associated with the commercialization of digital goods severely constrains, if
23 not precludes, the potential profitability of the sales of many types of digital
24 goods.

25 Substantial commercialization problems also arise from the existing
26 natural structure of the content providers and their relationships with the
27 consuming public. Specifically, the content originators for digital goods, such
28 as the many different kinds of artists, performers, writers, and other artisans
29 of works that can be represented by an intangible, are rarely prepared to
30 directly commercialize their works. Rather, these works today are transported,
31 packaged, and distributed through a myriad of producers, distributors,
32 warehouses, and resellers before ever reaching a retailer. These works are
33 also often commercialized in conjunction with advertising, promotion, and

- 3 -

1 other campaigns to support the commercialization of these or other goods,
2 even goods that are not amenable to electronic sale or delivery. The
3 complexity of these commercialization processes has resulted in the
4 development of a rich and diversified set of industries that together create and
5 operate the various distribution channels that connect today's content
6 providers with their consumers.

7 Today, there are only limited, and very simplistic electronic distribution
8 channels for a small and very select group and type of digital goods. The
9 purely electronic distribution of computer software titles is typically supported
10 by Internet retailers through direct download Web sites. The digital goods sold
11 are highly unitized, typically represent a significant financial cost to the
12 consumer, and fully correspond to conventionally distributed and retailed
13 goods. Essentially all other aspects of these electronic distribution channels,
14 such as advertising and promotions, are conventional in nature.
15 Consequently, there is not any substantially or even significantly complete
16 electronic distribution channels that are capable of handling the wide variety
17 of digital goods commerce that potentially exists.

18 Finally, the recurring issue of privacy, as particularly occurs in all
19 matters involving the Internet, also creates some unique problems for
20 electronic commerce for digital goods. Regardless of the specifics of particular
21 individuals and instances of particular digital goods, there is a clear desire and
22 need for consumers to have confidence that their electronic transactions are
23 and remain private. Like any other produced or manufactured digital goods,
24 the records of electronic transactions are themselves digital goods that, if
25 available, are susceptible to being processed, repackaged, and sold. Where
26 the digital goods distribution channel involves only the electronic retailer, an
27 apparently adequate degree of trust over the privacy of any particular
28 transaction seems to exist. This degree of acceptance in regards to privacy,
29 however, is very unlikely to exist where an electronic distribution channel is
30 both complex and involves many layers of different electronic packagers,
31 distributors, and resellers, all of whom are at least perceived by the consumer
32 to have access to or knowledge of any particular electronic transaction.

- 4 -

1 Consequently, there is a need for an electronic distribution system for
2 the wide variety of digital goods that exist today, where the system cost-
3 effectively establishes and credibly maintains an effective and acceptable
4 degree of trust between the content originators, all layers of distribution, and
5 the consumers of digital goods.

6 7 8 Summary of the Invention

9 Thus, a general purpose of the present invention is to provide for the
10 structure and operation of a digital distribution channel for digital goods

11 This is achieved in the present invention by providing a digital
12 distribution channel management system that includes a digital warehouse
13 storing different master copies of digital goods awaiting transfer and a
14 transaction database that stores a plurality of transaction records. A
15 transaction server is provided coupleable to a communications network, such
16 as the Internet. The transaction server is responsive to requests from the
17 communications network to serve an instance of a particular digital goods.
18 The request includes predetermined information that is authenticatable
19 against a predetermined transaction database record that stored in the
20 transaction database. The transaction server provides for the digital signing
21 of the instance of the digital goods and the serving of the instance back onto
22 the communications network where the predetermined information is
23 successfully authenticated against the predetermined transaction database
24 record.

25 An advantage of the present invention is that the system provides for the
26 aggregation of many small transactions into unitary, cost-effective financial
27 transactions.

28 Another advantage of the present invention is that the system provides
29 for the establishment of universal trust relationships between any number of
30 content originators, content providers, distributors and repackagers, and the
31 consumers. Additionally, these trust relationships are maintained through use
32 of a comprehensive distribution system that enforces the relationships and

- 5 -

1 thereby provides a highly credible support foundation for the maintenance of
2 these relationships.

3 A further advantage of the present invention is that the system
4 specifically supports anonymous transactions as a default structural
5 implementation of the system, thereby providing a very credible level of privacy
6 for the commercial users of the system. Control over the release of
7 information regarding any transactions can be directly established as
8 belonging to the consumer.

9 Still another advantage of the present invention is that the
10 aggregational vehicle utilized by the present invention can be made both
11 tangible and redistributeable. A physical card may be made the specific
12 controlling entity that allows or supports the execution of an electronic
13 transaction for the distribution of some digital goods, thereby allowing the card
14 itself to be transferred between consumers. This redistribution ability directly
15 provides for substantial flexibility to use the present invention in widely
16 different, simple to quite complex, single to multiparty distribution, advertising,
17 and other promotional activities, as well as re-distribution as gifts, incentives,
18 subscriptions, and sponsored activities.

19 Yet another advantage of the present invention is that implementations
20 of the aggregational vehicle, such as a card, permit use to be specifically
21 defined on a pre-emptive basis. The effective financial value attached to a
22 card is defined and held by the system. Thus, the financial impact of the loss
23 or mis-use of a card is limited. Further, the promotional, sponsored, or other
24 branding-type value of a card is definable and potentially re-definable through
25 the system by specification of the type, titles, categories, or other restrictions on
26 the digital goods that can be electronically delivered through the use of any
27 particular card or set of cards.

28 Still another advantage of the present invention is that the effective
29 financial value of an aggregational vehicle, such as a card, can be re-charged
30 through either a promotional, sponsored, or other branding-type source
31 transaction or by a consumer transaction, such as the transfer of actual funds
32 to the transactional account represented by the aggregational vehicle. The
33 potential also exists to allow the aggregational vehicle to support the

- 6 -

1 aggregation of transactional accounts, yet maintain the specific limitations on
2 account fund values provided by or through different promotional, sponsored,
3 or other branding-type source transactions. A single card may thus be able
4 to be used as multiple virtual cards, each carrying their own usage-limitations
5 and effective account balances.

6 A yet further advantage of the present invention is that the
7 aggregational vehicle may be also used in connection with the purchases of
8 tangible goods. An electronic transaction based on a card may be sponsored
9 or hosted directly or indirectly by a bricks-and-mortar retail site. By
10 establishment of a channel -type relationship with the allocation of funds to the
11 channel distributor for use in connection with the purchase of tangible goods
12 and services, the distribution of digital goods may be constrained to occur only
13 with the concurrent or prior purchase or use of some tangible goods.

14 15 16 Brief Description of the Drawings

17 These and other advantages and features of the present invention will
18 become better understood upon consideration of the following detailed
19 description of the invention when considered in connection with the
20 accompanying drawings, in which like reference numerals designate like parts
21 throughout the figures thereof, and wherein:

22 Figures 1A, 1B, AND 1C generally depict, in flow-graph form, the
23 relationships and transfers supported by the present invention in connection
24 with the distribution of digital goods and the management of the electronic
25 transactions in connection therewith;

26 Figure 2 shows the effective construction or digital packaging of digital
27 content as an electronically deliverable digital goods in accordance with a
28 preferred embodiment of the present invention;

29 Figure 3A illustrates the delivery of electronically deliverable digital
30 goods, in accordance with a preferred embodiment of the present invention,
31 to any of a number of different consumer devices capable of utilizing delivered
32 digital goods;

- 7 -

1 Figure 3B illustrates a client utilization of electronically deliverable digital
2 goods in accordance with a preferred embodiment of the present invention;

3 Figure 4 shows the system architecture of a distribution channel
4 transaction management system constructed in accordance with a preferred
5 embodiment of the present invention;

6 Figure 5 shows a transaction handling process flow for authenticating
7 and recording a transaction request in accordance with a preferred
8 embodiment of the present invention;

9 Figure 6 shows an expanded security process flow for dynamically
10 handling security exceptions in the transaction handling process flow shown
11 in Figure 5 in accordance with a preferred embodiment of the present
12 invention;

13 Figure 7 shows an expanded registration process flow for handling
14 security consumer registration in the transaction handling process flow shown
15 in Figure 5 in accordance with a preferred embodiment of the present
16 invention; and

17 Figure 8 shows an expanded focus limitation and digital goods delivery
18 management process flow for dynamically handling digital goods selection
19 and transfer fulfillment in the transaction handling process flow shown in
20 Figure 5 in accordance with a preferred embodiment of the present invention.

21

22 Detailed Description of the Invention

23 The present invention provides the structure and operation of a digital
24 distribution channel 10 for digital goods, as generally shown in Figure 1A. A
25 channel management computer system 12 preferably hosts a distributor
26 commerce (D-Commerce) site 14 on the Internet or other communications
27 network to operate as a communications point of contact for requests for
28 digital goods and management of the corresponding electronic transactions.
29 The distributor commerce site 14 is preferably implemented as a high-
30 performance Web server computer system executing a Web server application,
31 such as the Microsoft® Internet Information Server™ (IIS).

32 Preferably, the computer system 12 stores digital goods as digital
33 content files 16 in a secure storage device 18, effecting a digital warehousing

- 8 -

1 of available digital goods. The secure store device 18 is implemented as a
2 secure server system that includes a redundant array of hard disk drives to
3 ensure the data integrity of the stored digital content. The secure server system
4 itself is preferably protected from unauthorized electronic access through the
5 use of a secure operating system, which can be implemented at a minimum
6 through use of the Microsoft® WindowsNT™ secure server operating system.
7 Physical security over the secure server system is also preferably provided.
8 These protections together provide a highly credible secure environment for
9 managing the storage of the digital goods.

10 The distributor commerce site 14 preferably utilizes a high-performance
11 transaction oriented database 20 to provide access to transaction and related
12 account records used for authenticating distribution requests and recording the
13 corresponding completed electronic transactions. The database 20 may be
14 hosted on a separate database server computer system, which can be readily
15 implemented using Microsoft® MSSQL™ and WindowsNT™ file server
16 operating system.

17 Other components of the channel management computer system 12
18 preferably include a system management user interface 22 to the distributor
19 commerce site 14 system and an off-line account management system 24.
20 The System management interface 22 provides local maintenance access and
21 set of maintenance tools for use in operating the distributor site 14. The
22 account management system 24 likewise generally provides a local user
23 interface and set of tools for establishing and processing accounting
24 information and providing reports of account activity by users of the channel
25 management computer system 12.

26 Finally, a key generation component 28 is provided within the generally
27 secure environment of the channel management computer system 12. This
28 key generation component 28 is operated preferably through the system
29 management user interface 22 to produce and manage a collection of keys
30 – generally identification codes and personal identification numbers (PINs) –
31 that are to be used in conjunction with the authentication of distribution
32 requests as received by the distributor site 14.

1 The digital content 16 is preferably obtained from content providers 30,
2 which may include content originators directly or indirectly as represented by
3 agents and other entities that have the legal authority to engage the
4 distribution and sale of digital content. In the presently preferred embodiment
5 of the present invention, the digital content 16 is digitized music tracks
6 (individual songs) and collections (digital albums). The relevant content
7 providers therefore include musicians, their contractual agents, and the many
8 different music studios. The contractual rights for distribution are obtained 32
9 on behalf of the channel management computer system 12 in a conventional
10 manner. The actual digital content 16 is thereafter obtained through any
11 number of different forms of digital transport 34, provided that the transport
12 34 is secure 36. A preferred form of secure digital transport 34 is through use
13 of an encrypted digital transfer over the Internet. One such form of secure,
14 encrypted transfer 34 is provided utilizing the Netscape® Secure Sockets Layer
15 (SSL). An additional layer of security may be provided by requiring the transfer
16 to be made subject to the digital certification of the sending and receiving sites
17 through the use of Digital Certificates, which is an optional feature of SSL. A
18 private communications network may also be used, alone or in some
19 combination with SSL and Digital Certificates. Digital transport through the
20 use of a fixed, tangible digital medium, such as a compact disk (CD), may
21 also be used.

22 Use of these security mechanisms ensures to the content providers that
23 their content is accurately and actually delivered to the channel management
24 computer system 12. The reliability of the transfer of the digital content 16
25 thus forms a substantial credible basis for maintaining the trust relationships
26 between the content providers and the operator of the channel management
27 computer system 12.

28 Digital content 16 is available for distribution by the channel
29 management computer system 12 preferably through the distributor commerce
30 site 14 received through a generally secure digital transport medium 38.
31 Requests for distribution are received generally in relation to any retail site 40
32 or e-commerce site 42 that has established a distribution relationship with the
33 operator of the channel management computer system 12. This relationship

- 10 -

1 may be direct or indirect through a third party that has ultimately established
 2 a direct relationship with the operator of the channel management computer
 3 system 12.

4 As generally shown in relationship to the retail site 40, the relationship
 5 may be established as a direct relationship 44 or through a promoter 46 as
 6 an indirect relationship 38. As a result of the relationship with the operator of
 7 the channel management computer system 12, an aggregation vehicle is
 8 provided to a consumer. As shown, and in the preferred embodiment of the
 9 present invention, a tangible card 50 is issued to a specific consumer.
 10 Whereas the generalized aggregation vehicle is logically defined by certain
 11 data, the card 50 provides a convenient physical representation of essentially
 12 the same data. For a preferred embodiment of the present invention, Table
 13 I lists the pertinent data represented, if not explicitly printed, on a card 50.
 14

15 Table I -- Card Data

16 <u>Data Type</u>	<u>Description</u>
17 Sponsor 18 Personalization:	An advertising-type graphic and/or logo typically covering the front of the card.
19 Series Number:	20 An alpha-numeric identifier of a set of cards associated with a particular promotion, sponsored event, subscription, etc.
22 Card Key:	A unique number identifying the card.
23 PIN:	24 An identification number usable to verify the authenticity of the Card Key.
25 Sponsor 26 Identification:	Name and optionally the real address of the promoter or sponsor of this card series.
27 Redemption 28 Site:	29 One or more Web addresses that allow a selection of some digital goods and that support redemptions of part or all of the allocated monetary value of a card as part of an electronic transaction for the selected digital goods.
31 Initial Value:	32 Identification of the initial monetary value of the card. Optional.

Table I — Card Data

Data Type	Description
Expiration Date:	A promotional offer or use termination date for this card. Optional.
Total Uses:	A subscription limitation on the total number of redemptions allowed for this card. Optional.

A card 50 is preferably presented 52 to a corresponding retail site 40 through an access of a public redemption Web site hosted by or on behalf of the retail site 40. This site would typically include the Web page identified on the card and others that allow for the consumer's selection of some digital goods. One of the Web pages will preferably support the identification of the goods selected and provide for the input of at least the key and PIN data from the card 50. With the selection of a 'submit' button, the consumer would then preferably perceive that this information is forwarded as part of a digital goods distribution request to the retail site 40. In the initially preferred embodiment of the present invention, this page, though appearing as one of the Web pages hosted by the retail site 50, is a Web page hosted by and as part of the distributor commerce site 14. In this manner, the selection and card data 50 is securely submitted directly to the distributor commerce site 14 for authentication and, as appropriate, fulfillment.

The fulfillment of the distribution request is dependent on a number of requirements, including validation of the card key and PIN, verifying that the card distribution request is within the expiration date or number of uses limitation of the card, and whether the selected digital goods are available for redemption against the card. This set of requirements is variable based on the program or profile of such requirements that is established by the retail site 40 or promoter 46 for a particular series of cards 50. That is, the relationship established variously between the operator of the channel management computer system 12, the retail site 40, and the promoter 46 is used to establish, on a per series basis, a set of qualifying requirements for the redemption of the card. These transaction rules are stored in the transaction

- 12 -

1 database 20 in effect as a set of business rules that are evaluated upon receipt
2 of each distribution request. The series numbers of the cards preferably
3 provides for the segmentation of the rules into defined program profiles for the
4 corresponding sets of cards.

5 Provided that fulfillment is approved, an instance of selected digital
6 content 16 is securely signed based on a unique key provided from the key
7 generation component 28. The resulting packaged instance of the selected
8 digital content, representing verifiably deliverable digital goods, is then
9 electronically transferred to a digital content store/player 54 designated by the
10 consumer for receipt of the selected digital content. This player 54 preferably
11 includes a processor, content rendering engine, and memory that together
12 provide for the storage and presentation of the digital content. In a preferred
13 embodiment of the present invention, the player 54 is a conventional
14 consumer's personal computer. Where the digital content 16 is some
15 combination of audio and video, a conventional multi-media equipped
16 personal computer is fully capable of performing the rendering and
17 presentation of the digital content 16.

18 The use of the present invention in connection with e-commerce sites 42
19 is generally similar to the use in connection with the retail sites 40. E-
20 commerce sites 42, however, generally only exist in cyberspace -- there is
21 typically no realspace presence as in the case of retail sites 40 -- and therefore
22 naturally present themselves as public Web sites accessible over the Internet
23 56. These e-commerce sites 42 preferably establish relationships with the
24 operator of the channel management computer system 12 to allow the sites
25 42 to acquire and vend aggregation vehicles, such as the card 50. These
26 cards, may be vended over the Internet 56 by anyone one with a directly or
27 indirectly established relationship with the operator of the channel
28 management computer system 12. Thus, the promoter 46, other reseller or
29 sponsor, or even a gift giver 58 can provide the card to a digital goods
30 consumer either directly or through an electronic transaction over the Internet
31 56.

32 As before, the redemption of a card 50 for digital goods occurs in
33 connection with selection and ordering Web pages that at least appear to be

- 13 -

presented or hosted by the e-commerce site 42. Subject to the appropriate authentication and validation of the digital goods selected against the card 50, the digital goods are transferred to the designated digital content store/player 54.

The flexibility of the present invention to provide for a rich set of commercial and non-commercial distribution opportunities in connection with electronic transactions for digital goods is further evident from the exemplary processes generally shown in Figures 1B and 1C. The different business models generally represented in these figures are summarized in Table II below.

Table II – Business Models

<u>Usage Model</u>	<u>Model Description</u>
Sponsor:	An advertising sponsor of goods or services underwrites the distribution of cards with assigned values, focus limitations, etc. to introduce the goods or services or to create and increase brand awareness of the sponsor and other related goods and services.
Promotion:	A promoter of some goods or services sponsors the distribution of cards in connection with the purchase or use the promoted goods or services, thus creating or supporting an advertising tie-in campaign.
Affinity:	A promoter of an event or product introduction sponsors the distribution of cards to encourage consumer sampling and acceptance of the event or product and to purchase and re-purchase the related goods and services.
Subscription:	A promoter or originator of some serial content distributes cards to establish an ongoing relationship with consumers for the serial content, while constraining the repeated access to the serial content to comply with business rules defining the value, identity, redistribution, repeated use and other aspects of the serial content.

Table II - Business Models

Usage Model	Model Description
Reporting:	A manager of a program involving the access or employment of some content by a definite set of users may issue cards to define access and usage parameters that can then be reported to the manager.
Combination:	Any combination of the above or other similar usage models.

For a promotion or sponsored model, the system 70 shown in Figure 18 provides a distributor site 14 that operates as the entry point to an embodiment of the Internet distribution control system 12 of the present invention. Based on relationships with particular promoter sites 72 and providers of focused content 74, a promotion or sponsored distribution campaign can be organized and controlled through the operation of the Internet distribution control system 12. The specific focus limitations to be employed for any particular series of cards 50 is preemptively established in conjunction with the promoter site 72, which in turn is selected to advance the objectives of the promotion. The cards 50 may be distributed through retail outlets 76 to end-users/consumers 78 as a specific inducement for the end-users 78 to visit the retail outlets 76, as necessary to actually obtain a card 50 such as through the purchase of some other product or service of the retail outlet 76.

Since the card 50 for a particular promotion activity can only be obtained from specified retail outlets, and only in conjunction with some other specific activity, the promotion opportunity retains the specific focus not only as desired by the promoter 72, but fully consistent with similar conventional promotion activities. In the case of many advertising campaigns sponsored by the original manufacturers of particular goods or even digital content itself, the present invention allows the promoter 72 to effectively manage and control the campaign by minimizing the complex involvement of the individual retail outlets 76 to specific distribution activities that are easily manageable. Further, the specification and enforcement of the promotion redemption activities can

1 also be off-loaded to the Internet distribution control system 12 while at least
2 maintaining the appearance that the redemption process is entirely within the
3 branded domain of the promoter site 72, and therefore both building and
4 bearing the consumer's trust of the promoter's brand. Furthermore, the off-
5 loading of the redemption activities to the Internet distribution control system
6 12 only increases the tangible cost-effectiveness of the promotional campaign
7 and the intangible credibility of the Internet distribution control system 12 to
8 correctly process the redemption information and ensure that the correct digital
9 goods are provided in the fulfillment process.

10 The source/subscriber system 90, as generally shown in Figure 1C,
11 further demonstrates the variability of use of the present invention. In this
12 exemplary case, the Internet distribution control system 12 may be used by a
13 content source/originator 92 in a limited role as a digital order
14 management/fulfillment house. The content source/originator 92 may, in
15 accordance with a preferred embodiment of the present invention, fully host
16 the selection/ordering Web pages 80 as well as distribute cards 50 directly or
17 indirectly as self-determined to the end-user/subscribers of the content
18 source/originator 92. In this case, the digital content produced by the content
19 source/originator 92 may be provided through a focus content provider 74,
20 as shown, or directly to the Internet distribution control system 12 for use in
21 subsequent redemption fulfillment. The distributor site 14 therefore operates
22 merely as a source of card 50 series to the content source/originator 92 and
23 as a limited portal for the distribution of the corresponding digital content in
24 response to redemption requests provided from the content source/originator
25 site 92. The actual and perceived relationship between the end-
26 user/subscriber and the content source/originator 92 is therefore direct and
27 real. The Internet distribution control system 12 and distribution site 14
28 transparently operate as a trusted digital distributor to the content
29 source/originator 92.

30 In both the systems 70, 90, the present invention supports the targeted
31 objectives of the business models used by the promoter 72 and content source
32 92 by supporting the constrained fulfillment of redemption requests. The
33 Internet distribution control system 12 not only provides for the authentication

- 16 -

1 of the cards 50 as electronically presented for redemption, but also provides
2 for the limitation of the redemption to predefined, or focus selected digital
3 goods. For example, a promotion targeted to a specific audio artist's works
4 is desirably focused on just that artist's body of works. The present invention
5 provides, through the operation of the Internet distribution control system 12,
6 a limiting of a specific card series to a particular profile of redeemable digital
7 goods. Thus, a fully authenticated card 50 may yet be denied for a particular
8 selected digital goods where the goods are determined by the Internet
9 distribution control system 12 to lay outside of the defined scope of the
10 particular promotion for which the card 50 was distributed. There is, however,
11 a substantial degree of freedom in how the scope of a promotion is defined.
12 For any promoted activity, works, or even digital goods, the scope of the
13 promotion may be defined along any categorization line or genre that can be
14 defined by a set of business rules executable by the Internet distribution control
15 system 12. Thus, the promotion of a specific 'blues' recording artist may yet
16 allow redemption of digital goods that (1) are by that particular artist; (2) are
17 blues recordings owned or controlled by the artist's record label; (3) are blues
18 or jazz recordings, blues or jazz musical videos, or blues-type movies that are
19 owned or controlled by the promoter's studio; or (4) relate to some other
20 digital goods product that is desired by the promoter to be tied to the artist's
21 name.

22 In accordance with a preferred embodiment of the present invention,
23 the digital content packaged and delivered as digital goods is a composite of
24 multiple individual instances of different digital content. As generally shown
25 in Figure 2, a process of digital packaging 100 is preferably employed to
26 produce a digital goods 102 that is suitable for distribution and capable of
27 maintaining the trust relationships between the content providers and
28 distributor by presenting a highly credible basis for ensuring that the digital
29 content distributed is not improperly resold, redistributed, or copied for resale
30 or distribution. The digital goods 102 is preferably a unitary file that contains
31 the full content associated with a particular distribution license. In the case of
32 music, single tracks, sets of tracks, or entire albums are often defined as
33 individual licensable entities. Alternately, a specific recording of a song and

- 17 -

1 a corresponding music video may constitute the licensable entity. In any of
2 these cases, the corresponding digital content representing the licensable entity
3 is treated in the packaging process 100 as digital content 104, which is
4 subjected to a highly-secure digital packaging, encoding and encrypting
5 operation 112, 114. There are many different suitable encoding processes that
6 are commercially licensable. In at least the initially preferred embodiment of
7 the present invention, the digital encoder/encryption process 114 is an
8 implementation of the Intel Software Integrity System, which is commercially
9 available under license from Intel® Corporation, Santa Clara, California. In
10 a preferred embodiment of the present invention, a commercially licensable
11 software system is utilized to initially package the digital content 104 with some
12 basic, packaging operator-supplied text content 106, which is descriptive of the
13 digital content 104. This software system is obtainable from Preview Systems,
14 Inc., Cupertino, California.

15 In accordance with the preferred embodiments of the present invention,
16 however, additional content, such as binary content 108 and text-oriented
17 content 110 is also provided as source material to the digital packaging
18 process 100. The binary content 108 may include graphics, icons, applets,
19 programs, and other material typically represented as binary images. In
20 connection with a music album, for example, the binary content 108 may
21 simply be the cover and related art originally released with the album compact
22 disk. The binary content 108 could also include a computer installable icon
23 that is used to represent the album within the filesystem of the computer and
24 an applet that presents advertisements and related offers as the album is
25 played. The ability to include a program within the binary content 108 would
26 allow concurrent distribution of a demonstration game or other application
27 program. Alternately, the included program could be one or more "plug-in"
28 components useable by a digital content player to enhance or add to the
29 listening or viewing experience of the digital content 104.

30 The text-oriented content 110 may also include a number of different
31 text entities, potentially in different specific formats. For example, a plain text
32 copy of the liner notes of an album could be included in the content 110. The
33 lyrics of the different songs present in the album might also be included in a

1 text format appropriate to be read and displayed by an applet included as part
2 of the binary content 108 or provided as part of an XML (extensible markup
3 language), HTML and/or JavaScript™ file stored as still other textual content
4 110. Other XML and/or HTML files, stored as textual content 110, may
5 provide additional information regarding the album and provide various
6 hyper-text links to Web sites where additional relevant information may be
7 obtained, thereby enhancing the end-user/consumer's experience and
8 perceived value of the digital goods obtained through uses of the present
9 invention.

10 The digital packaging 112 of the different digital, binary, and textual
11 content 104, 108, 110 preferably provides for the organization of the content
12 into a composite, transient document that is then further packaged to produce
13 the unitary digital goods file 102. In creating the composite document, the
14 different input content 104, 106, 108, 110 is preferably numerically
15 compressed using conventional algorithms appropriate for the particular type
16 of content. In the case of content where lossless compression is required,
17 implementations of the Lempel-Zev-Welch (LZW) or other similar algorithms
18 may be used. Graphics and other similar types of binary images may be
19 compressed using JPEG or other similar types of lossy compression.

20 Once appropriately encoded and compressed, the various content is
21 organized and placed into the digital goods file 102. This file 102 preferably
22 includes a version identifier 116 and a digital signature 118. The version
23 identifier 116 may be variously used to identify, directly or indirectly, the
24 specifics of the digital packager and encoding 112, 114 and, therefore, how
25 the file 102 may be properly interpreted and parsed when subsequently
26 examined for use by a content player. The digital signature 118 is used to
27 provide, at a minimum, a basis for subsequently confirming the integrity of the
28 digital goods file 102.

29 In a preferred embodiment of the present invention, the digital goods
30 file 102 then contains an internal component 134 that includes an XML
31 document 120, an object locators block 122, and an objects block 124. The
32 XML document 120 is constructed, at least in part, through the operation of the
33 digital packager 112 to include an appropriate description or identification of

- 19 -

1 the various other parts of the component 134. Thus, the XML document 120
2 preferably includes XML references to the objects the content 108, 110 that are
3 composited as part of the digital goods file 102. These XML references,
4 however, would conventionally identify additional external documents and
5 files. The public XML standard, as developed and published by the W3C
6 (World Wide Web Consortium), does not provide a mechanism for the XML
7 references to point back to the same file component 134 that contains the XML
8 document 120. This is consistent with the conventionally recognized and
9 intended uses of XML in connection with the organization and presentation of
10 distributed information across an open communications medium, such as the
11 Web.

12 In connection with the present invention, the organization capabilities
13 provided through the use of an XML document as conventionally defined is in
14 tension with the need to provide digital goods through electronic transactions
15 with certainty that the entirety of the digital goods are both transferred
16 completely and remain properly organized for ready use by the end-
17 user/consumer.

18 The present invention, therefore, provides the XML document 120 with
19 the additional ability to self-reference the file component 134, even as
20 embedded within the digital goods file 102. The digital packaging process
21 step 112 of compositing the various content 104, 108, 110 provides for the
22 creation of an objects locators block 122 within the component 134. The
23 objects locators block 122 provides a table of offsets or other pointers to the
24 different objects 124 derived through the packaging from the binary content
25 108 and textual content 110. Thus, parsing of the XML document 120 in
26 connection with the objects locators block 122 in accordance with the present
27 invention allows all of the objects 124 be separately identified even while
28 digitally packaged into a single digital goods file 102.

29 Once the digital goods file 102 is fully composited, the digital
30 packaging step 112 operates to prepare a digital signature that covers the
31 composited file 102. Preferably, the digital goods file 102 is processed
32 through a digital signature generator provided as part of the
33 encoder/encryption 114 to produce a binary string that securely represents the

- 20 -

1 contents of the file 102. In a preferred embodiment of the present invention,
2 the digital signature generator 114 includes a conventional software
3 component implementing a public key encryption algorithm. At least the core
4 secure public key encryption engine, as used by the digital signature generator
5 114, is commercially licensable from conventional software vendors. For the
6 preferred embodiment of the present invention, the digital signature generator
7 114 utilizes a SecureID™ public key encryption component, which is a publicly
8 licensable product of RSA Security, Inc., San Mateo, California.

9 Since the generation of the digital signature is based on a public key
10 encryption algorithm, the generator, 114 also takes as inputs a private key
11 128, corresponding to the identity of the distribution management system for
12 the particular instance or series of instances of the digital goods 102 and a
13 public key 130. As a product of the signature generation process 114, a
14 second private key, which is used to form the basis of a separate digital license
15 132, is also generated. Finally, the binary signature string produced by the
16 digital signal generator is then written to the signature field of the digital goods
17 file 102. At this point, the completed instance of the digital goods file 102 is
18 ready for electronic transport to an end-user/consumer.

19 A preferred process 140 of providing for the distribution of the digital
20 goods file 102 is shown in Figure 3A. A fully prepared instance of the digital
21 goods file 102 is passed through the distributor site 14 by the Internet
22 distribution control system 12 to the Internet 142 as part of a conventional
23 HTTP transaction. The destination of the digital goods file 102 is generally any
24 content store/player that is designated by the consumer and that is available
25 to participate, directly or indirectly, in the HTTP transaction. Suitable content
26 store/players include multi-media equipped personal computers 144, digital
27 content audio players 146, and other digital audio/visual players and digital
28 appliances 148, such as digital personal assistants (PDAs) and digital books
29 that can store and present digital information. The actual HTTP transfer of the
30 digital goods file 102 is preferably performed using SSL to ensure that the
31 transfer of the digital goods file 102 and, separately, the digital license file
32 132 are both delivered to the consumer without interception by any third party.

1 This process of distribution 140 may be simplified by providing for the
2 actual digital goods file 102 to be prepared and delivered to a consumer
3 separate from the delivery of the digital license 132. Specifically, different
4 internet and non-Internet delivery mechanisms may be employed to deliver the
5 digital goods file 102. For example, a physical compact disk containing any
6 number of different digital goods files 102 may be shipped or otherwise
7 delivered into the possession of a consumer, potentially as part of a
8 promotion. Digital goods files 102 may also be pre-installed in a newly
9 purchased multi-media computer system. The digital goods files 102 may
10 also be provided on software CD-ROMS that are purchased by consumers
11 purely for the software program content. Alternately, the digital goods file
12 102 may be streamed over the Internet to the consumer. As part of a digital
13 stream, the digital goods file 102 is only transiently stored by the consumer.
14 In all of these cases, the absence of a valid digital license precludes the content
15 of the digital goods file 102 from being accessed or limited to a short preview
16 of the content.

17 A generalized digital content store/player 150 is shown in Figure 3b.
18 The content store/player 150, in accordance with a preferred embodiment of
19 the present invention, includes a microprocessor 152 is capable of being
20 uniquely identified, such as by the presence of a hardware identifier (uID) 154,
21 and a storage system 156, at least logically local to the microprocessor 152,
22 that is capable of storing some number of digital goods files 102 and the
23 corresponding digital licenses 132. The player 150 also preferably includes
24 some combination of audio stream renderers, such as hardware audio
25 decoders 158, and speakers 160, video stream renders, such as hardware
26 video display controller 162, and display system 164, depending on the
27 intended use of the player 150. In addition, other stream data renderers 166
28 and corresponding presentation units 168 may be provided. These additional
29 renderers may provide for the presentation of other sensor data, such as force
30 feedback in games, and sub-sonic vibrations and environmental lighting
31 modulation in conjunction with, for example, live concert recordings and
32 action movies.

- 22 -

1 The microprocessor 152 preferably executes an application program
2 that implements the software processes 170 that provide for the processing of
3 the digital goods file 102. Specifically, the software processes 170 provide an
4 XML object server 172 that supports accesses by an XML parser 174 to select
5 and retrieve the constituent parts of the digital goods file 102. In the preferred
6 embodiment of the present invention, the XML object server 172 provides the
7 bridging functionality of an essentially conventional XML parser at the core of
8 the parser process 174 to be able to access the object locators block 122 as
9 corresponding XML references are parsed from the XML document 120. Thus,
10 the XML object server performs a redirection function as needed to support the
11 XML parser 174. All of the component parts of the digital goods file 102 are
12 therefore made available to the software processes 170 under the
13 organization of the XML document 120.

14 Preferably then, the software processes 170, following from the parsing
15 of the XML document 120 provide for the processing of the digital content
16 104, binary content 108, and textual content 110, present in the digital goods
17 file 102. As needed, the software processes 170 invoke HTML parsers 176,
18 audio decoders 178, and video/binary image decoders 180 to process the
19 content 104, 108, 110 to a level suitable for presentation to the hardware
20 renderers 158, 162, 166. Additionally, the software processes 170 can
21 recognize and, as appropriate, utilize audio and video plug-ins 182, 184 to
22 further process the content 104, 108, 110 prior to being passed to the
23 renderers 158, 162, 166. These software plug-ins 182, 184 may be
24 independently or separately introduced into the player 150.

25 Alternately, the plug-ins 182, 184 may be provided as part of the
26 binary content of the digital goods 102. In this case, the XML document 120
27 will identify the specific objects within the binary content 108 that are the plug-
28 ins and permit the software processes 170 to appropriately load these objects
29 into the execution memory space of the microprocessor 152. Once loaded,
30 the microprocessor 152 preferably operates to initialize the plug-ins 182, 184
31 into the software environment of the software processes 170.

32 The preferred architecture 190 of the Internet distribution control system
33 12 is shown in greater detail in Figure 4 as including a secure server system

- 23 -

192, a set of user interfaces 194, and a secure business-to-business interface 196 to a financial service provider. The secure server system 192 may make use any of the many different commercial e-commerce server systems that are now widely available through established vendors or provided by hosting services. In a preferred embodiment of the present invention, the secure server system 192 includes a scalable internet server 198 using Microsoft IIS, hosted on a WindowsNT OS server and Intel Pentium III® platform provided behind a conventional Internet firewall that provides the network secure environment of the secure server system 192. The internet server 198 may host and execute an instance of the Internet firewall application.

The internet server 198 is preferably used to process Internet transactions related to the authentication, digital goods selection, card redemption accounting, and digital goods electronic transfer fulfillment. A database server 200 is preferably provided to support database access against an accounts database 202 used to store the card account and related information. For a preferred embodiment of the present invention, Table III lists the general account information stored by the accounts database 202.

Table III – Account Information

<u>Account Information</u>	<u>Account Information Description</u>
Sponsor ID:	Information identifying the sponsor and sponsor program.
Series Number:	An alpha-numeric identifier of a set of cards associated with a particular promotion, sponsored event, subscription, etc.
Card Key:	A unique number identifying the card.
PIN:	An identification number usable to verify the authenticity of the Card Key.
Redemption Profile:	Identification of the profile or profiles that can be evaluated in determining whether any particular use of the card is allowable. Initially, only a single profile is recognized.
Current Value:	Identification of the current monetary value of the card against each of the available profiles for this card.

Table III – Account Information

<u>Account Information</u>	<u>Account Information Description</u>
Expiration Date:	A promotional offer or use termination date for this account relative to each of the available profiles for this card.
Total Uses:	The current total subscription uses or redemptions for each of the available profile for this card.

The accounts database 202 is also preferably used to store the account related profile information. A summary of the profile information stored in the database 202 is provided in Table IV. The account information and profile information is thus available to the internet server 198 in determining the authentication and authorization status for any particular redemption request received.

Table IV – Profile Information

<u>Account Information</u>	<u>Account Information Description</u>
Sponsor ID:	Information identifying the sponsor and sponsor program.
Card Series Number:	An alpha-numeric identifier of a set of cards associated with a particular promotion, sponsored event, subscription, etc.
Profile ID:	An identifier of a particular promotion, sponsorship, subscription or other profile basis allowing for the use of any authenticated cards for the redemption of allowable digital goods.
Business Rules:	A set of business rules and requirements defining the allowable uses of a card with respect to this profile.

A content store 204 is also preferably provided as a repository for the digital content that is to be distributed by the server system 192. Thus, as redemption requests are approved for fulfillment, the database server 200 is

1 preferably utilized to obtain the requested content from the content store 204.

2 An internet server 206 may be provided to separately support
3 administration functions necessary to maintain and obtain reports from the
4 secure server system 192. The internet server 206 may be implemented
5 utilizing essentially the same software and hardware components as the server
6 198.

7 A key management server 208, key database server 210, and key
8 database 212 is also preferably provided in the secure server system 192. This
9 key control subsystem 208, 210, 212 operates to produce and manage the
10 secure storage of at least the private encryption keys that are used in the digital
11 signing and licensing of the digital goods electronically transferred out of the
12 secure server system 192. The key management server 208 is responsible for
13 generating the private keys, which then can be stored through the database
14 server 210 by the key database 212. These generated keys can then be
15 provided on a transactional or as needed basis through the database server
16 200 for storage, directly or indirectly, against the account records in the
17 accounts database 202. A key management and control user interface 214
18 is preferably provided within the secure server system 192 to operate, as
19 needed, the key management server 208.

20 In a preferred embodiment of the present invention, the secure server
21 system 192 is used to support Web sites that are public, as in the case of the
22 retail Web site 220, and that are protected, such as the remote administration
23 Web site 224, which can be used to support secure sites 196, such as the card
24 recharge site 226. The retail site 220 supports a conventional Web page type
25 user interface 228 that allows for the selection and ordering of digital goods.
26 The information collected regarding the consumer, including the aggregation
27 vehicle information, and the digital goods selections requested by the
28 consumer are preferably submitted through a HTTP transaction gateway 230
29 to the internet server 198 of the secure server system 192.

30 Administration functions are preferably performed through the
31 administration site 224, which operates a HTTP gateway 232 to the internet
32 server 206 used to support the externally allowed management, maintenance,
33 and control aspects of the secure server system 192. Interaction with the

- 26 -

administration Web site 224 is supported through a conventional Web page type user interface 234.

In accordance with a preferred embodiment of the present invention, the recharging of the aggregation vehicles is permitted though the use of the secure

recharge site 196. For example, a consumer may be permitted by the profile associated with a card to add monetary value to the card. Thus, from the retail site 220, the consumer is permitted to access the secure site 226 and perform a supported HTTP transaction through a financial services gateway 236 with a third party financial services provider (FSP) 238. This transaction is typically a credit card charge transaction. On completion of the credit card charge transaction, another HTTP transaction through the financial service gateway 236, directly or as shown indirectly, communicates updated account information to the administration internet server 206. Corresponding account records in the accounts database 202 can then be updated as appropriate to reflect an increased account value for the corresponding aggregation vehicle.

Promoters and other parties provided with suitable access rights to the administration site 224 can also directly affect the account and profile records stored by the accounts database 202. Promotional values, new profile rules, extensions of expiration dates, and other aspects of the promotion, sponsorship, subscription, or other programs being run through the secure system 192 are available to be modified. Limitations and constraints on these modifications may be readily established as part of the defined relationship between the entities, such as promoters, and the operators of the secure server system 192.

A preferred process 250 of authentication and electronic transfer of digital goods is shown in Figure 5. The process 250 is initiated in response to the submission 252 of a redemption request. This request preferably includes a key, PIN, a selection (SKU#), and a selection corresponding redemption value. Other data submitted may include a transaction identifier, and a consumer supplied message or identifier. An account lookup 254 is then performed. Where the key is not found, a notification message 258 can be returned to the consumer. If the PIN is determined 260 to be incorrect, an

- 27 -

1 analysis 264 of the number of PIN failures and frequency of failure may be
2 performed to determine whether a fraudulent use is being attempted. Where
3 fraud is reasonably suspected based on the analysis 264, the account, as
4 represented by the card, may be deactivated 266. Otherwise, an appropriate
5 notification message may be provided to the consumer.

6 If the card corresponding account lacks sufficient funds 268, the
7 consumer may be so notified 270. In addition, if permitted by the
8 corresponding account profile, the notification may provide the consumer with
9 an option to recharge the account. The active status of the promotion,
10 subscription, or other activity represented by a card 272 is then checked. If the
11 status is determined to be inactive, a corresponding error notification 274 is
12 provided to the consumer. Similarly, the expiration date of the particular
13 account, as represented by the card, is then checked 276. If the card has
14 expired, which may be promotional mechanism used to require the consumer
15 to revisit some retail site or store to have the expiration date modified, a
16 corresponding message 278 is generated and provided to the consumer.

17 Once the account as represented by a particular card has been
18 authenticated and authorized for redemption of the value of the specified
19 digital goods, a transaction against the relevant account record is begun 280.
20 In a preferred embodiment of the present invention, a header record for the
21 transaction is initially written to the accounts database 202. On any failure of
22 the header record write, the transaction is terminated and a corresponding
23 message 284 is provided to the consumer. Preferably, in sequence, a line item
24 record 286 and an updated account balance 288 is written to the accounts
25 database 202. Again, any failure in writing this information to the accounts
26 database 202 results in the transaction termination and a corresponding
27 message 284 being provided to the consumer.

28 In a preferred embodiment of the present invention, an electronic
29 licensing and transfer package is used to control the actual electronic delivery
30 of the digital goods to the consumer. The presently used package is available
31 under the product name Ziplock Server™, which is also available under license
32 from Preview Systems, Inc., Cupertino, California. Thus, after the accounts
33 database 202 is updated with the new account balance 288, a corresponding

- 28 -

1 authorization code is generated and used as the basis for initiating the transfer
2 of the digital goods 290. The digital license is then also transferred 292.
3 Since the transfer package operates as an independent server application to
4 manage the actual transfers of the digital goods and license, the process 250
5 is considered complete 294 once the transfer package has accepted the
6 authorization code.

7 An enhanced security operation for the process 250 is shown in greater
8 detail in Figure 6. The enhanced security process 300 may be invoked in the
9 process 250 in place of or in addition to the analysis step 264. Alternately,
10 any security check 302 may be performed initially, as shown. On failure 304,
11 the failure history of the particular account, series of cards, or related set of
12 promotion profiles are checked 308 for patterns of mis-use. For example, rate
13 of failures, or failure velocity, may be analyzed 310 to determine whether an
14 organized attack is being made to fraudulently authenticate an account that
15 then can be used to improperly obtain access to some digital goods. In this
16 case, various threshold criteria can be applied to detect patterns and
17 determine whether any velocity limit has been exceeded 312. If a limit is
18 exceeded, the account is deactivated 314 and the consumer notified
19 accordingly 316. Otherwise, where either no security failure is noted 304 or
20 a limit is not exceeded 312, a security record is written 306 in the accounts
21 database 202, directly or indirectly, so as to permit subsequent evaluation
22 against the account, series of cards, or related set of promotion profiles
23 considered by the security check 302.

24 The authentication and electronic transfer of digital goods process 250
25 preferably operates anonymously with respect to the actual consumer using
26 any particular aggregation vehicle. Specifically, the authentication is
27 performed against a particular card, not against the particular holder of the
28 card. As generally shown in Figure 7, the process 250, however, may
29 selectively operate to request or require a registration or user identification
30 before authentication is completed. Whether a registration request is
31 presented to a consumer may be based on the profile associated with the
32 particular account identified for use by a consumer. Thus, in some sequence
33 with the active 272, expired 274, or other steps that involve the evaluation of

- 29 -

1 the account profile, a determination 320 of whether registration is requested
2 or required can be made. A further determination 322 of whether the
3 registration has already occurred can then be made. If registration
4 information has not already been received, the required or requested
5 information can be obtained 324 upon presentation of appropriate Web page
6 forms. Information so obtained, is then preferably written, directly or indirectly,
7 to the accounts database 202 at least for purposes of subsequent examination
8 in the process of authenticating and authorizing redemptions against the
9 corresponding account. Similarly, a usage history 328 may be written to
10 collect other reportable information in regard to the actions taken with respect
11 to the identified account.

12 Figure 8 shows a further modification and enhancement of the
13 authentication and electronic transfer of digital goods process 250. A flexible
14 focus limitation process 340 may be incorporated within the process 250
15 generally in some sequence with the active 272, expired 274, or other steps
16 that involve the evaluation of the account profile being authenticated. Thus,
17 a determination 342 can be made from the account or related account profile
18 as to whether any focus limitation needs to be considered. Where some focus
19 limitation needs to be considered for enforcement, the identified limitations are
20 considered either sequentially or on some order or as part of a decision
21 hierarchy determined by the corresponding account profile. This latter case
22 allows for simple to quite complex "bonus-level," "rebate," and "incentive
23 program" structures to be defined and directly enforced as part of the general
24 authentication process 250.

25 As shown in Figure 8, an ordered linear sequence of focus limitations
26 can be iteratively examined and thereby used to constrain a particular
27 redemption selection. These limitations, which are exemplary, include a
28 "parental" or specific title inclusion/exclusion, limitation 344, a promotion
29 limitation that may be specific to the number of digital goods available 346,
30 a content limitation that may be specific to a particular artist, genre, label, or
31 studio 348, and any other definable limitation 350 capable of being evaluated
32 as a business rule. As each limitation is identified, a determination can then
33 be made 354 as to whether the selected digital goods acceptably falls within

- 30 -

1 the focus limitation. A failure of a selection to conform to a focus limitation
2 preferably results in a corresponding notification 356 being generated and
3 provided to the consumer. The corresponding selection is then removed or
4 dropped 358. The selection process, iterating through the determination 342
5 of whether any remaining focus limitations remain to be considered, then
6 continues. Where a selection is finally determined to be within the defined
7 focus limitation restrictions 344, 346, 348, 354, the selected digital goods are
8 prepared 360 and transferred 362 to the consumer.

9 Thus, a system for providing for the trusted channel distribution of
10 digital goods utilizing a network communications system, such as the Internet,
11 has been described.

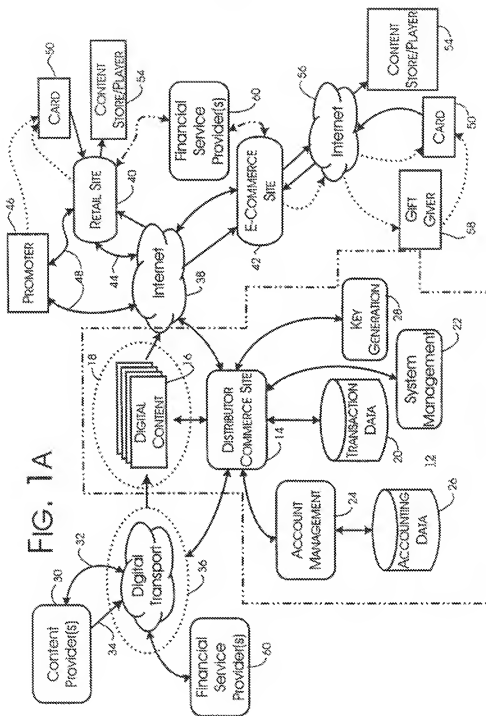
12 In view of the above description of the preferred embodiments of the
13 present invention, many modifications and variations of the disclosed
14 embodiments will be readily appreciated by those of skill in the art. It is
15 therefore to be understood that, within the scope of the appended claims, the
16 invention may be practiced otherwise than as specifically described above.

17

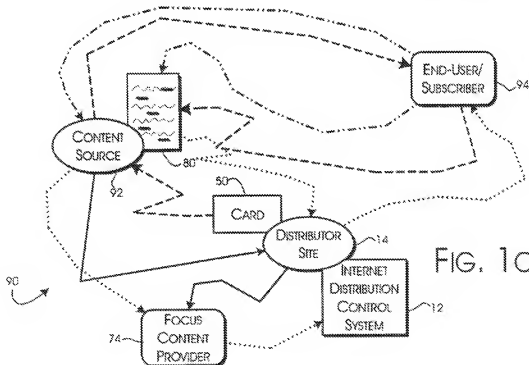
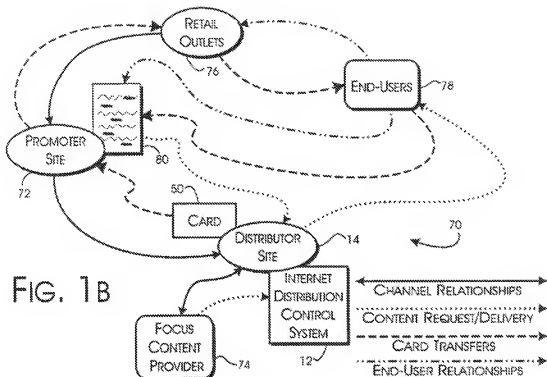
Claims

- 1 1. A digital distribution channel management system comprising:
2 a) a digital warehouse storing a predetermined digital unit;
3 b) a transaction database storing a plurality of transaction
4 records; and
5 c) a transaction server coupleable to a communications network,
6 said transaction server being responsive to a request from said
7 communications network to serve said predetermined digital unit wherein said
8 request includes predetermined information authenticateable against a
9 predetermined transaction database record stored in said transaction
10 database, wherein said transaction server provides for the digital signing of an
11 instance of said predetermined digital unit and the serving of said instance to
12 said communications network in response to said request where said
13 predetermined information is successfully authenticated against said
14 predetermined transaction database record.

1/8



2/8



3/8

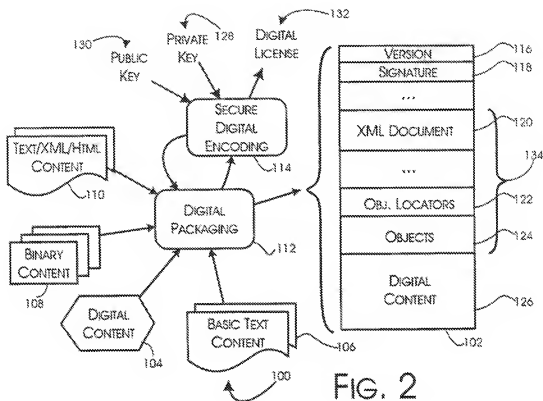


FIG. 2

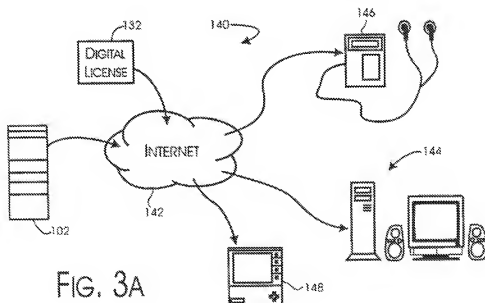


FIG. 3A

4/8

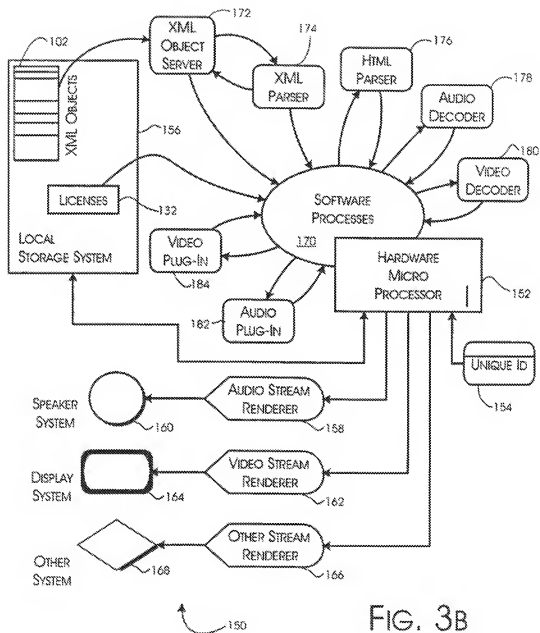
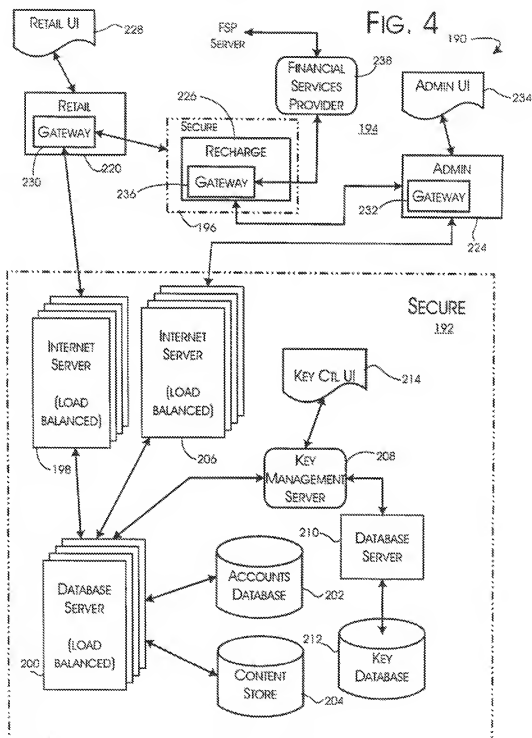


FIG. 3B

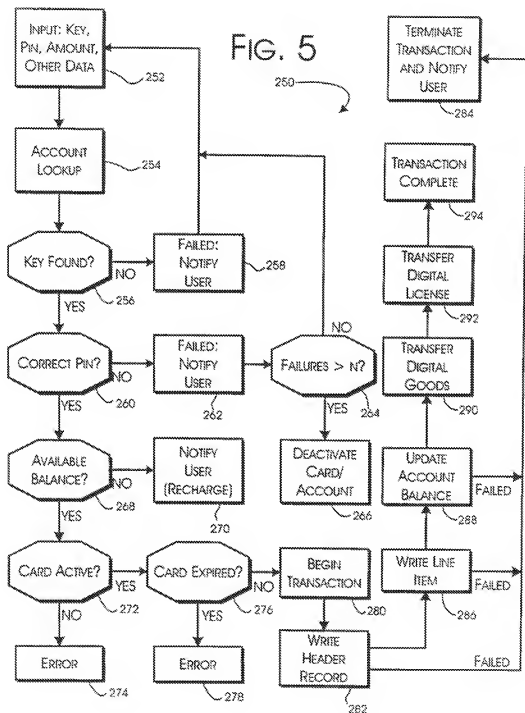
5/8

FIG. 4

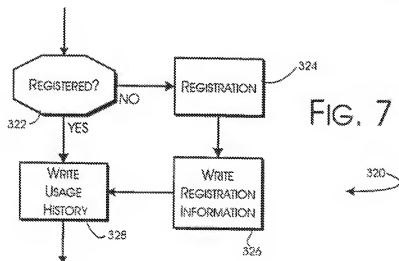
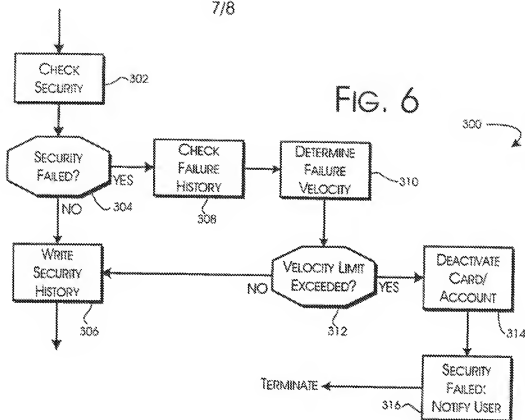


6/8

FIG. 5



7/8



8/8

FIG. 8

